

=> fil reg; d ide 15; d ide 16

FILE 'REGISTRY' ENTERED AT 11:41:22 ON 05 APR 2004

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 4 APR 2004 HIGHEST RN 671180-42-0

DICTIONARY FILE UPDATES: 4 APR 2004 HIGHEST RN 671180-42-0

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN 9012-76-4 REGISTRY

CN **Chitosan (8CI, 9CI)** (CA INDEX NAME)

OTHER NAMES:

CN 100D-VL

CN Amidan

CN BC 10

CN BC 10 (polysaccharide)

CN Biopolymer L 112

CN Chicol

CN Chitan, N-acetyl-

CN Chitech

CN Chitin, N-deacetyl-

CN Chitoclear

CN Chitoclear 400

CN Chitofos

CN Chitolaze

CN Chitoparl 3510

CN Chitoparl BC 3000

CN Chitoparl BCW 2500

CN Chitoparl BCW 3000

CN Chitoparl BCW 3500

CN Chitoparl BCW 3505

CN Chitoparl BCW 3507

CN Chitoparl K 20

CN Chitosan 500

CN Chitosan CLH

CN Chitosan EL

CN Chitosan F

CN Chitosan FL

CN Chitosan H

CN Chitosan LL

CN Chitosan LL 80

CN Chitosan LLWP

CN Chitosan M

CN Chitosan MP

CN Chitosan PSH

CN Chitosan SK 10  
CN Chitosan VL  
CN Chitosan WL-M  
CN Chitosol  
CN Chitosom  
CN Crystan LA-S  
CN CTA 1 Lactic Acid  
CN CTA 4  
CN DAC 50  
CN DAC 70  
CN Daichitosan 100DVL  
CN Daichitosan DVL  
CN Daichitosan P-VL  
CN Daichitosan VL  
CN Daichitosan VLA  
CN Daichitosan W 10  
CN Deacetylchitin

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for  
DISPLAY

DR 57285-05-9  
MF Unspecified  
CI PMS, COM, MAN  
PCT Manual registration, Polyother, Polyother only  
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS,  
BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,  
CHEMLIST, CIN, CSCHM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB,  
IFIPAT, IFIUDB, IPA, MEDLINE, NAPRALERT, PHAR, PIRA, PROMT, RTECS\*,  
TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VTB  
(\*File contains numerically searchable property data)  
Other Sources: NDSL\*\*, TSCA\*\*, WHO  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

13174 REFERENCES IN FILE CA (1907 TO DATE)  
2356 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
13216 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN 1398-61-4 REGISTRY

CN **Chitin (8CI, 9CI)** (CA INDEX NAME)

OTHER NAMES:

CN Chitan, N-acetyl-  
CN Chitin Tc-L  
CN Clandosan  
CN Kimitsu Chitin  
CN Regitex FA  
CN SEC 1  
DR 9043-70-3, 191802-95-6  
MF Unspecified  
CI COM, MAN

LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA,  
CANCERLIT, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN, CSCHM,  
CSNB, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*,  
NAPRALERT, PROMT, RTECS\*, TOXCENTER, USPAT2, USPATFULL, VETU, VTB  
(\*File contains numerically searchable property data)  
Other Sources: EINECS\*\*, NDSL\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

7418 REFERENCES IN FILE CA (1907 TO DATE)

914 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
7432 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> d ide

L22 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN 64-19-7 REGISTRY

CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN acetic acid

CN Aci-Jel

CN E 260

CN Ethanoic acid

CN Ethanoic acid monomer

CN Ethylic acid

CN Glacial acetic acid

CN Methanecarboxylic acid

CN NSC 111201

CN NSC 112209

CN NSC 115870

CN NSC 127175

CN NSC 132953

CN NSC 406306

CN Vinegar acid

FS 3D CONCORD

DR 77671-22-8

MF C2 H4 O2

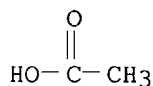
CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DIOGENES, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HODOC\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM\*, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

84654 REFERENCES IN FILE CA (1907 TO DATE)

3886 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

84741 REFERENCES IN FILE CAPLUS (1907 TO DATE)

2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> fil capl; d que 14; fil uspatf; d que 147  
FILE 'CAPLUS' ENTERED AT 13:06:40 ON 05 APR 2004  
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FILE COVERS 1907 - 5 Apr 2004 VOL 140 ISS 15  
FILE LAST UPDATED: 4 Apr 2004 (20040404/ED)

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*inventor*  
*search*

'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

L1 1286 SEA FILE=CAPLUS ABB=ON FAN W?/AU  
L2 40 SEA FILE=CAPLUS ABB=ON BOHLMANN J?/AU  
L3 2 SEA FILE=CAPLUS ABB=ON L1 AND L2  
L4 1 SEA FILE=CAPLUS ABB=ON CHITOSAN/TI AND L3

FILE 'USPATFULL' ENTERED AT 13:06:41 ON 05 APR 2004  
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 1 Apr 2004 (20040401/PD)  
FILE LAST UPDATED: 1 Apr 2004 (20040401/ED)  
HIGHEST GRANTED PATENT NUMBER: US6715148  
HIGHEST APPLICATION PUBLICATION NUMBER: US2004064864  
CA INDEXING IS CURRENT THROUGH 1 Apr 2004 (20040401/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 1 Apr 2004 (20040401/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2004  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2004

>>> USPAT2 is now available. USPATFULL contains full text of the <<<  
>>> original, i.e., the earliest published granted patents or <<<  
>>> applications. USPAT2 contains full text of the latest US <<<  
>>> publications, starting in 2001, for the inventions covered in <<<  
>>> USPATFULL. A USPATFULL record contains not only the original <<<  
>>> published document but also a list of any subsequent <<<  
>>> publications. The publication number, patent kind code, and <<<  
>>> publication date for all the US publications for an invention <<<  
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<  
>>> records and may be searched in standard search fields, e.g., /PN, <<<  
>>> /PK, etc. <<<

>>> USPATFULL and USPAT2 can be accessed and searched together <<<  
>>> through the new cluster USPATALL. Type FILE USPATALL to <<<  
>>> enter this cluster. <<<  
>>> <<<  
>>> Use USPATALL when searching terms such as patent assignees, <<<

>>> classifications, or claims, that may potentially change from <<<  
>>> the earliest to the latest publication. <<<

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L5 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN  
L39 55 SEA FILE=USPATFULL ABB=ON FAN W?/AU  
L40 10 SEA FILE=USPATFULL ABB=ON BOHLMANN J?/AU  
L41 6 SEA FILE=USPATFULL ABB=ON TRINKLE J?/AU  
L42 46 SEA FILE=USPATFULL ABB=ON STEINKE J?/AU  
L43 165 SEA FILE=USPATFULL ABB=ON HWANG K?/AU  
L44 58 SEA FILE=USPATFULL ABB=ON HENNING J?/AU  
L45 1628 SEA FILE=USPATFULL ABB=ON L5  
L47 1 SEA FILE=USPATFULL ABB=ON (L39 OR L40 OR L41 OR L42 OR L43 OR L44) AND L45

=> dup rem 14 147

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PROCESSING COMPLETED FOR L4  
PROCESSING COMPLETED FOR L47

L115 2 DUP REM L4 L47 (0 DUPLICATES REMOVED)  
ANSWER '1' FROM FILE CAPLUS  
ANSWER '2' FROM FILE USPATFULL

=> d ibib ed ab 1-2

L115 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 2001:693384 CAPLUS  
DOCUMENT NUMBER: 135:243979  
TITLE: Chitosan and preparing chitosan  
from microbial biomass  
INVENTOR(S): Fan, Weiyu; Bohlmann, John A.;  
Trinkle, James R.; Steinke, James D.; Hwang, Ki-Oh;  
Henning, Joseph P.  
PATENT ASSIGNEE(S): Cargill, Incorporated, USA  
SOURCE: PCT Int. Appl., 19 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001068714	A1	20010920	WO 2000-US20173	20000725
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,			

CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
BR 2000003114 A 20011204 BR 2000-3114 20000724  
EP 1272528 A1 20030108 EP 2000-953667 20000725  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL  
US 2002025945 A1 20020228 US 2000-739406 20001218  
PRIORITY APPLN. INFO.: US 2000-189560P P 20000315  
WO 2000-US20173 W 20000725  
ED Entered STN: 21 Sep 2001  
AB Highly deacetylated (>85%) chitosan is made by providing chitin-contg.  
biomass (esp. fungal biomass); reacting the chitin-contg. biomass in a  
caustic soln. of >25% alkali at >95.degree. for .gtoreq.10 h to convert  
the chitin in the biomass to chitosan; and sepg. the chitosan from the  
caustic soln. A pre-treating step may be used in which microbial biomass  
is heated in a less alk. soln. prior to reacting with more alk. soln.  
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L115 ANSWER 2 OF 2 USPATFULL on STN

ACCESSION NUMBER: 2002:43578 USPATFULL  
TITLE: Chitosan and method of preparing chitosan  
INVENTOR(S): Fan, Weiyu, Minnetonka, MN, UNITED STATES  
Bohlmann, John A., Ottumwa, IA, UNITED STATES  
Trinkle, James R., Bussey, IA, UNITED STATES  
Steinke, James Donald, Oskaloosa, IA, UNITED  
STATES  
Hwang, Ki-Oh, Oskaloosa, IA, UNITED STATES  
Henning, Joseph P., Eddyville, IA, UNITED  
STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002025945	A1	20020228
APPLICATION INFO.:	US 2000-739406	A1	20001218 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-189560P	20000315 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903	
NUMBER OF CLAIMS:	6	
EXEMPLARY CLAIM:	1	
LINE COUNT:	512	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A highly deacetylated chitosan obtained from microbial biomass, a method  
of obtaining chitosan from microbial biomass, and biomass for making  
chitosan are disclosed. The method includes providing chitin-containing  
biomass; reacting the chitin-containing biomass in a caustic solution of  
greater than 25 percent alkali at a reaction temperature greater than  
95.degree. C. for a reaction period of at least 10 hours to convert the  
chitin in the biomass to chitosan; and separating the chitosan from the  
caustic solution.

=> fil capl; d que l14; d que l18;

FILE 'CAPLUS' ENTERED AT 13:08:18 ON 05 APR 2004

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FILE COVERS 1907 - 5 Apr 2004 VOL 140 ISS 15

FILE LAST UPDATED: 4 Apr 2004 (20040404/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

*chitosan  
from fungal  
sources*

L5 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN  
L6 1 SEA FILE=REGISTRY ABB=ON CHITIN/CN  
L7 15346 SEA FILE=CAPLUS ABB=ON L5 OR CHITOSAN/OBI  
L8 9495 SEA FILE=CAPLUS ABB=ON L6 OR CHITIN/OBI  
L9 47941 SEA FILE=CAPLUS ABB=ON ACETYLAT?/OBI  
L10 12588 SEA FILE=CAPLUS ABB=ON DEACETYLAT?/OBI  
L11 2972 SEA FILE=CAPLUS ABB=ON L7(L) PREP/RL  
L12 227 SEA FILE=CAPLUS ABB=ON L11 AND L8 AND (L9 OR L10)  
L13 7347 SEA FILE=CAPLUS ABB=ON BIOMASS/CT  
L14 1 SEA FILE=CAPLUS ABB=ON L12 AND L13

*etc*

L5 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN  
L6 1 SEA FILE=REGISTRY ABB=ON CHITIN/CN  
L7 15346 SEA FILE=CAPLUS ABB=ON L5 OR CHITOSAN/OBI  
L8 9495 SEA FILE=CAPLUS ABB=ON L6 OR CHITIN/OBI  
L9 47941 SEA FILE=CAPLUS ABB=ON ACETYLAT?/OBI  
L10 12588 SEA FILE=CAPLUS ABB=ON DEACETYLAT?/OBI  
L11 2972 SEA FILE=CAPLUS ABB=ON L7(L) PREP/RL  
L12 227 SEA FILE=CAPLUS ABB=ON L11 AND L8 AND (L9 OR L10)  
L15 140896 SEA FILE=CAPLUS ABB=ON FUNG?/OBI  
L16 24717 SEA FILE=CAPLUS ABB=ON CANDIDA/OBI OR C GUILLERMONDII/OBI  
L17 33963 SEA FILE=CAPLUS ABB=ON ASPERGILLUS/OBI OR A/OBI (W) (NIGER/OBI  
OR TERREUS/OBI)  
L18 7 SEA FILE=CAPLUS ABB=ON L12 AND (L15 OR L16 OR L17)

=> s (l14 or l18) not l4

L116 7 (L14 OR L18) NOT (L4)

*manually  
printed*

=> fil uspatf; d que l54; s l54 not l47

FILE 'USPATFULL' ENTERED AT 13:08:19 ON 05 APR 2004

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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 1 Apr 2004 (20040401/PD)  
FILE LAST UPDATED: 1 Apr 2004 (20040401/ED)  
HIGHEST GRANTED PATENT NUMBER: US6715148  
HIGHEST APPLICATION PUBLICATION NUMBER: US2004064864  
CA INDEXING IS CURRENT THROUGH 1 Apr 2004 (20040401/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 1 Apr 2004 (20040401/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2004  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2004

>>> USPAT2 is now available. USPATFULL contains full text of the <<<  
>>> original, i.e., the earliest published granted patents or <<<  
>>> applications. USPAT2 contains full text of the latest US <<<  
>>> publications, starting in 2001, for the inventions covered in <<<  
>>> USPATFULL. A USPATFULL record contains not only the original <<<  
>>> published document but also a list of any subsequent <<<  
>>> publications. The publication number, patent kind code, and <<<  
>>> publication date for all the US publications for an invention <<<  
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<  
>>> records and may be searched in standard search fields, e.g., /PN, <<<  
>>> /PK, etc. <<<

>>> USPATFULL and USPAT2 can be accessed and searched together <<<  
>>> through the new cluster USPATAL. Type FILE USPATAL to <<<  
>>> enter this cluster. <<<  
>>> <<<  
>>> Use USPATAL when searching terms such as patent assignees, <<<  
>>> classifications, or claims, that may potentially change from <<<  
>>> the earliest to the latest publication. <<<

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substance identification.

L5 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN  
L6 1 SEA FILE=REGISTRY ABB=ON CHITIN/CN  
L45 1628 SEA FILE=USPATFULL ABB=ON L5  
L46 824 SEA FILE=USPATFULL ABB=ON L6  
L48 3265 SEA FILE=USPATFULL ABB=ON (CANDIDA OR GUILLERMONDII OR  
ASPERGILLUS OR A(W) (NIGER OR TERREUS))/IT  
L49 6347 SEA FILE=USPATFULL ABB=ON (DEACETYLAT? OR ACETYLAT?)/IT  
L52 7 SEA FILE=USPATFULL ABB=ON L45 AND L48 AND (L46 OR L49)  
L53 1 SEA FILE=USPATFULL ABB=ON OFFICE/TI AND L52  
L54 6 SEA FILE=USPATFULL ABB=ON L52 NOT L53

L117 6 L54 NOT (L47) *previously printed*  
=> fil CABA, BIOSIS, TOXCENTER

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=> d que 181; d que 188

L5 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN



L6 1 SEA FILE=REGISTRY ABB=ON CHITIN/CN  
L66 5591 SEA L5  
L68 6508 SEA L6  
L72 34936 SEA ACETYLAT? OR DEACETYLAT?  
L73 162374 SEA (CANDIDA OR GUILLERMONDII OR ASPERGILLUS OR A(W) (NIGER OR  
TERREUS))  
L81 13 SEA L66 AND L68 AND L72 AND L73

L67 7916 SEA CHITOSAN  
L69 14375 SEA CHITIN  
L72 34936 SEA ACETYLAT? OR DEACETYLAT?  
L73 162374 SEA (CANDIDA OR GUILLERMONDII OR ASPERGILLUS OR A(W) (NIGER OR  
TERREUS))  
L86 841 SEA L67(3A) (PREP? OR MANUF? OR PURIF?)  
L88 9 SEA L86 AND L73 AND L69 AND L72

=> s l81 or l88

L118 18 L81 OR L88

=> fil PASCAL, JICST-EPLUS, BIOTECHDS, LIFESCI, CROPU, SCISEARCH

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=> d que l111

L98 13719 SEA CHITOSAN  
L99 15137 SEA CHITIN  
L100 35201 SEA DEACETYLAT? OR ACETYLAT?  
L101 129289 SEA (CANDIDA OR GUILLERMONDII OR ASPERGILLUS OR A(W) (NIGER OR  
TERREUS))  
L109 2027 SEA L98(5A) (PREP? OR PURIF? OR MANUF?)  
L111 13 SEA L109 AND L101 AND L99 AND L100

=> dup rem l116,l118,l111,l117

FILE 'CAPLUS' ENTERED AT 13:09:00 ON 05 APR 2004  
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PROCESSING COMPLETED FOR L116  
PROCESSING COMPLETED FOR L118  
PROCESSING COMPLETED FOR L111  
PROCESSING COMPLETED FOR L117  
L119 29 DUP REM L116 L118 L111 L117 (15 DUPLICATES REMOVED)  
ANSWERS '1-7' FROM FILE CAPLUS  
ANSWERS '8-10' FROM FILE CABA  
ANSWERS '11-17' FROM FILE BIOSIS  
ANSWERS '18-19' FROM FILE TOXCENTER  
ANSWERS '20-23' FROM FILE BIOTECHDS  
ANSWERS '24-29' FROM FILE USPATFULL

=> d ibib ed ab hitrn 1-29

L119 ANSWER 1 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 2003:913055 CAPLUS  
DOCUMENT NUMBER: 139:399770  
TITLE: Medical goods comprising heparin or chitosan-based  
hemocompatible coating  
INVENTOR(S): Horres, Roland; Linssen, Marita Katharina; Hoffmann,  
Michael; Faust, Volker; Hoffmann, Erika; Di Biase,  
Donato  
PATENT ASSIGNEE(S): Hemoteg G.m.b.H., Germany  
SOURCE: PCT Int. Appl., 93 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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=> fil capl; d que 130; d que 138

FILE 'CAPLUS' ENTERED AT 13:11:34 ON 05 APR 2004

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FILE COVERS 1907 - 5 Apr 2004 VOL 140 ISS 15

FILE LAST UPDATED: 4 Apr 2004 (20040404/ED)

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'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

L5	1	SEA FILE=REGISTRY ABB=ON	CHITOSAN/CN	
L6	1	SEA FILE=REGISTRY ABB=ON	CHITIN/CN	
L7	15346	SEA FILE=CAPLUS ABB=ON	L5 OR CHITOSAN/OBI	
L8	9495	SEA FILE=CAPLUS ABB=ON	L6 OR CHITIN/OBI	
L9	47941	SEA FILE=CAPLUS ABB=ON	ACETYLAT?/OBI	
L10	12588	SEA FILE=CAPLUS ABB=ON	DEACETYLAT?/OBI	
L11	2972	SEA FILE=CAPLUS ABB=ON	L7 (L) PREP/RL	
L12	227	SEA FILE=CAPLUS ABB=ON	L11 AND L8 AND (L9 OR L10)	
L22	1	SEA FILE=REGISTRY ABB=ON	ACETIC ACID/CN	
L23	84887	SEA FILE=CAPLUS ABB=ON	L22	
L29	19855	SEA FILE=CAPLUS ABB=ON	L23 (L) USES/RL	
L30	5	SEA FILE=CAPLUS ABB=ON	L12 AND L29	
L5	1	SEA FILE=REGISTRY ABB=ON	CHITOSAN/CN	
L6	1	SEA FILE=REGISTRY ABB=ON	CHITIN/CN	
L7	15346	SEA FILE=CAPLUS ABB=ON	L5 OR CHITOSAN/OBI	
L8	9495	SEA FILE=CAPLUS ABB=ON	L6 OR CHITIN/OBI	
L9	47941	SEA FILE=CAPLUS ABB=ON	ACETYLAT?/OBI	
L10	12588	SEA FILE=CAPLUS ABB=ON	DEACETYLAT?/OBI	
L11	2972	SEA FILE=CAPLUS ABB=ON	L7 (L) PREP/RL	
L12	227	SEA FILE=CAPLUS ABB=ON	L11 AND L8 AND (L9 OR L10)	
L33	5444	SEA FILE=CAPLUS ABB=ON	SHRIMP/OBI	
L34	11602	SEA FILE=CAPLUS ABB=ON	PHYTOPLANKTON/OBI OR PHYTO/OBI (L) PLANKT ON/OBI	
L35	5020	SEA FILE=CAPLUS ABB=ON	CRUSTACEAN#/OBI	
L36	8642	SEA FILE=CAPLUS ABB=ON	MOLLUS##/OBI	
L37	41458	SEA FILE=CAPLUS ABB=ON	VISCOSITY/CT	
L38	6	SEA FILE=CAPLUS ABB=ON	L12 AND L37 NOT (L33 OR L34 OR L35 OR L36)	

=> s (130 or 138) not (14 or 114 or 118)

L120 11 (L30 OR L38) NOT (L4 OR L14 OR L18)

*previously printed*  
Searched by Barb O'Bryen, STIC 571-272-2518

=> fil uspatf; d que 156; d que 158

FILE 'USPATFULL' ENTERED AT 13:11:35 ON 05 APR 2004  
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 1 Apr 2004 (20040401/PD)  
FILE LAST UPDATED: 1 Apr 2004 (20040401/ED)  
HIGHEST GRANTED PATENT NUMBER: US6715148  
HIGHEST APPLICATION PUBLICATION NUMBER: US2004064864  
CA INDEXING IS CURRENT THROUGH 1 Apr 2004 (20040401/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 1 Apr 2004 (20040401/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2004  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2004

>>> USPAT2 is now available. USPATFULL contains full text of the <<<  
>>> original, i.e., the earliest published granted patents or <<<  
>>> applications. USPAT2 contains full text of the latest US <<<  
>>> publications, starting in 2001, for the inventions covered in <<<  
>>> USPATFULL. A USPATFULL record contains not only the original <<<  
>>> published document but also a list of any subsequent <<<  
>>> publications. The publication number, patent kind code, and <<<  
>>> publication date for all the US publications for an invention <<<  
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<  
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substance identification.

L5 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN  
L6 1 SEA FILE=REGISTRY ABB=ON CHITIN/CN  
L22 1 SEA FILE=REGISTRY ABB=ON ACETIC ACID/CN  
L45 1628 SEA FILE=USPATFULL ABB=ON L5  
L46 824 SEA FILE=USPATFULL ABB=ON L6  
L49 6347 SEA FILE=USPATFULL ABB=ON (DEACETYLAT? OR ACETYLAT?)/IT  
L55 8490 SEA FILE=USPATFULL ABB=ON L22  
L56 1 SEA FILE=USPATFULL ABB=ON L55 AND L45 AND L46 AND L49

L5 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN  
L22 1 SEA FILE=REGISTRY ABB=ON ACETIC ACID/CN  
L45 1628 SEA FILE=USPATFULL ABB=ON L5  
L55 8490 SEA FILE=USPATFULL ABB=ON L22  
L57 1061 SEA FILE=USPATFULL ABB=ON VISCOSITY/CT  
L58 7 SEA FILE=USPATFULL ABB=ON L45 AND L55 AND L57

=> s (156 or 158) not (154 or 147)

L121 8 (L56 OR L58) NOT (L54 OR L47)

=> fil CABA, BIOSIS, TOXCENTER

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=> d que 194

L5 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN  
L22 1 SEA FILE=REGISTRY ABB=ON ACETIC ACID/CN  
L66 5591 SEA L5  
L67 7916 SEA CHITOSAN  
L70 23537 SEA L22  
L71 76531 SEA ACETIC ACID  
L73 162374 SEA (CANDIDA OR GUILLERMONDII OR ASPERGILLUS OR A(W) (NIGER OR  
TERREUS))  
L74 1008420 SEA FUNG?  
L75 44031 SEA VISCOSITY  
L94 2 SEA (L66 OR L67) AND (L73 OR L74) AND L75 AND (L70 OR L71)

=> s 194 not (181 or 188) *previously printed*

L122 2 L94 NOT (L81 OR L88)

=> fil PASCAL, JICST-EPLUS, BIOTECHDS, LIFESCI, CROPU, SCISEARCH

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=> d que 1113

L98 13719 SEA CHITOSAN  
L101 129289 SEA (CANDIDA OR GUILLERMONDII OR ASPERGILLUS OR A(W) (NIGER OR  
TERREUS))  
L102 477868 SEA FUNG?  
L103 59713 SEA ACETIC ACID  
L104 143357 SEA VISCOSITY  
L113 6 SEA L98 AND (L101 OR L102) AND L103 AND L104

=> s l113 not l111

L123 6 L113 NOT L111

=> dup rem l120,l122,l123,l121

FILE 'CAPLUS' ENTERED AT 13:12:00 ON 05 APR 2004

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PROCESSING COMPLETED FOR L120

PROCESSING COMPLETED FOR L122

PROCESSING COMPLETED FOR L123

PROCESSING COMPLETED FOR L121

L124 25 DUP REM L120 L122 L123 L121 (2 DUPLICATES REMOVED)

ANSWERS '1-11' FROM FILE CAPLUS

ANSWERS '12-13' FROM FILE BIOSIS

ANSWER '14' FROM FILE PASCAL

ANSWERS '15-16' FROM FILE BIOTECHDS

ANSWER '17' FROM FILE CROPU

ANSWERS '18-25' FROM FILE USPATFULL

=> d ibib ed ab hitrn 1-25

L124 ANSWER 1 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:159911 CAPLUS

DOCUMENT NUMBER: 138:370569

TITLE: Preparation of super-water reservoir gel from  
**deacetylated chitin** by  
crosslinking-modification

AUTHOR(S): Yang, Dan; Liu, Yi; He, Lan-zhen

CORPORATE SOURCE: Zhanjiang Ocean University Science Institute,  
Zhanjiang Guangdong, 524088, Peop. Rep. China

SOURCE: Shiyou Huagong (2003), 32(2), 133-138

CODEN: SHHUE8; ISSN: 1000-8144

PUBLISHER: Shiyou Huagong Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 04 Mar 2003

AB Super water reservoir gel was prepd. by deacetylating chitin and  
subsequent modifying with crosslinking agent chiefly formalin. The water  
maintenance of gel was 1000-1500 times in case of distd. water and more

than 500 times in case of tape water. The prepn. formulation of gel was: chitosan/1% acetic acid/crosslinking agent/reinforcing agent = 0.1 g/7 mL/3.5 mL/0.5-0.7 mL. The crosslinking between the mols. of chitosan was derived from the mechanism of Schiff base reaction and IR spectra.

IT 64-19-7, Acetic acid, uses

RL: NUU (Other use, unclassified); **USES (Uses)**  
(effect on prepn. of super-water reservoir gel from **deacetylated chitin** by crosslinking modification)

IT 9012-76-4P, Chitosan

RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)  
(prepn. of super-water reservoir gel from **deacetylated chitin** by crosslinking modification)

IT 1398-61-4, Chitin

RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; prepn. of super-water reservoir gel from **deacetylated chitin** by crosslinking modification)

L124 ANSWER 2 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:216252 CAPLUS

DOCUMENT NUMBER: 139:23403

TITLE: Rheology of chitosan solutions

AUTHOR(S): Signini, Roberta; Campana-Filho, Sergio P.

CORPORATE SOURCE: Instituto de Quimica de Sao Carlos, Universidade de Sao Paulo, Sao Carlos/SP, 13560-970, Brazil

SOURCE: Advances in Chitin Science (2002), 6, 173-176  
CODEN: ACSCFF

PUBLISHER: Universitaet Potsdam, Universitaetsbibliothek

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 20 Mar 2003

AB The rheol. behavior of chitosan dissolved in aq. acetic acid/acetate buffer of const. ionic strength was studied as a function of the mol. wt. of the polymer and concn. of the soln. The chitosan samples prepd. by deacetylation of chitin and chitosan in the presence of sodium borohydride and anthraquinone, resp., presented relatively high mol. wt. These samples formed solns. which showed non-newtonian behavior for shear rate higher than 100s<sup>-1</sup> at polymer concn. close to 10-15 g/L. The crit. concns. relative to dil./semi-dil. and semi-dil./concd. domains were detd. as C\*<sub>[.eta.]</sub>apprxeq.1 and C\*\*<sub>[.eta.]</sub>apprxeq.9, as generally found for semi-rigid chains.

IT 64-19-7, Acetic acid, uses

RL: NUU (Other use, unclassified); **USES (Uses)**  
(rheol. of chitosan solns.)

IT 9012-76-4DP, Chitosan, deacetylated

RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**  
(rheol. of **chitosan** solns.)

IT 1398-61-4, Chitin

RL: RCT (Reactant); RACT (Reactant or reagent)  
(rheol. of chitosan solns.)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L124 ANSWER 3 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:399971 CAPLUS

DOCUMENT NUMBER: 137:234301

TITLE: Solid state structure of chitosan prepared under different N-**deacetylating** conditions

AUTHOR(S): Harish Prashanth, K. V.; Kittur, F. S.; Tharanathan, R. N.

CORPORATE SOURCE: Department of Biochemistry and Nutrition, Central Food Technological Research Institute, Mysore, 570 013,

India  
SOURCE: Carbohydrate Polymers (2002), 50(1), 27-33  
CODEN: CAPOD8; ISSN: 0144-8617  
PUBLISHER: Elsevier Science Ltd.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
ED Entered STN: 29 May 2002  
AB Changes in the crystallinity and polymorphic nature of chitosan, as a function of N-deacetylation of chitin under different conditions were studied. Viscosity av. mol. wt. suggests a higher d.p. for chitosan prep. in the presence of thiophenol, as an O scavenger. FTIR spectra exhibited a progressive weakening of the bands at 1655, 3265, and 3100 cm<sup>-1</sup> during N-deacetylation and A1382/A2920 cm<sup>-1</sup> ratios of 0.65, 0.56, and 0.46 indicated a higher order structure for chitosan prep. with thiophenol than those prep. under N atm. or otherwise. The differences in crystallinity indexes of chitosans were further substantiated by x-ray diffraction data. Splitting of C1 and C4 signals in CP-MAS 13C-NMR spectra suggested the possible occurrence of newer conformational polymorphs. DSC thermograms showed higher thermal stability for chitosan with higher d.p.  
IT **1398-61-4, Chitin**  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
(solid state structure of chitosan prep. under different **chitin N-deacetylation** conditions)  
IT **9012-76-4P, Chitosan**  
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**  
(solid state structure of **chitosan** prep. under different **chitin N-deacetylation** conditions)  
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L124 ANSWER 4 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:391640 CAPLUS  
DOCUMENT NUMBER: 133:179196  
TITLE: Chitosan-organosilane hybrids-syntheses, characterization, copper adsorption, and enzyme immobilization  
AUTHOR(S): Airoldi, Claudio; Monteiro, Oyrton A. C., Jr.  
CORPORATE SOURCE: Instituto de Quimica, Universidade Estadual de Campinas, Sao Paulo, 13083-970, Brazil  
SOURCE: Journal of Applied Polymer Science (2000), 77(4), 797-804  
CODEN: JAPNAB; ISSN: 0021-8995  
PUBLISHER: John Wiley & Sons, Inc.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
ED Entered STN: 14 Jun 2000  
AB New org.-inorg. hybrids SiGCX (X = 1 to 3) were prep. from the biopolymer chitosan with a degree of the deacetylation of 86% and three distinct silylating agents of the type (CH<sub>3</sub>O)<sub>3</sub>Si-R-NH<sub>2</sub> [R = -(CH<sub>2</sub>)<sub>3</sub>-, -(CH<sub>2</sub>)<sub>3</sub>NH(CH<sub>2</sub>)<sub>2</sub>- and -(CH<sub>2</sub>)<sub>3</sub>NH(CH<sub>2</sub>)<sub>2</sub>NH(CH<sub>2</sub>)<sub>2</sub>-]. Both chitosan and silylating agents have the amine groups crosslinking through linear glutaraldehyde units. Two stages were proposed for this synthetic method: crosslinking, and sol-gel processes. The resulting dried hydrogels are amorphous, insol. in org. as well as acidic or alk. aq. media, and exhibited a lamellae-like surface morphol. The hybrids SiGCX (X = 2 and 3) have a larger adsorption capacity for copper ion than natural chitosan, with very similar kinetics of adsorption, defining a plateau after 1 h. The adsorption of copper increases with the org. chain length of the silylating agents: [(1.72 ± 0.05); (1.98 ± 0.06) and (2.49 ± 0.07)] .times. 10<sup>-2</sup> mmol/g for SiGCX (X = 1 to 3), resp., and chitosan



adsorbed (1.72  $\pm$  0.05)  $\times 10^{-2}$  mmol/g. These hybrids presented a good capacity for immobilizing enzymes, which decreased with the increase of the org. chain length of the silylating agents, i.e., from SiGC3 to SiGC1. The amt. of catalase immobilized for the hybrids SIGCX (X = 1 to 3) is 29.03  $\pm$  0.87; 25.79  $\pm$  0.77, and 17.94  $\pm$  0.54 mg g<sup>-1</sup>, resp., which is larger than the value of 12.21  $\pm$  0.37 mg g<sup>-1</sup> obtained for chitosan.

IT **64-19-7D**, Acetic acid, polymer with chitosan and glutaraldehyde, uses

RL: NUU (Other use, unclassified); **USES (Uses)**

(in prepn. of chitosan-organosilane hybrids, characterization, copper adsorption, and enzyme immobilization)

IT **1398-61-4**, Chitin

RL: RCT (Reactant); RACT (Reactant or reagent)

(in prepn. of chitosan-organosilane hybrids, characterization, copper adsorption, and enzyme immobilization)

IT **9012-76-4P**, Chitosan

RL: RCT (Reactant); SPN (Synthetic preparation); **PREP**

(**Preparation**); RACT (Reactant or reagent)

(prepn. of chitosan-organosilane hybrids, characterization, copper adsorption, and enzyme immobilization)

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L124 ANSWER 5 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:810248 CAPLUS

DOCUMENT NUMBER: 134:101102

TITLE: Effects of additives and inert gas bubbling on the **deacetylation of chitin** and chitosan

AUTHOR(S): Signini, Roberta; Campana Filho, Sergio P.

CORPORATE SOURCE: Departamento de Fisico-Quimica / Instituto de Quimica de Sao Carlos / Universidade de Sao Paulo, Sao Carlos, CEP: 13560-970, Brazil

SOURCE: Natural Polymers and Composites, [Proceedings from the Third International Symposium on Natural Polymers and Composites, [and the] Workshop on Progress in Production and Processing of Cellulosic Fibres and Natural Polymers], Sao Pedro, Brazil, May 14-17, 2000 (2000), 131-134. Editor(s): Capparelli Mattoso, Luiz Henrique; Leao, Alcides; Frollini, Elisabete. Embrapa Instrumentacao Agropecuaria: Sao Carlos, Brazil. CODEN: 69AHKY

DOCUMENT TYPE: Conference

LANGUAGE: English

ED Entered STN: 19 Nov 2000

AB Purified chitosan was submitted to homogeneous deacetylation in aq. sodium hydroxide (5%) during 3 h at 100.degree.. $\pm$ 2.degree.C and ground com. chitin was heterogeneously deacetylated in suspension of aq. sodium hydroxide (40%) during 6 h at 115.degree.. $\pm$ 2.degree.C. Reactions were carried out in the presence of sodium borohydride or anthraquinone and under flux of nitrogen or argon. Deacetylated chitosans were acid-sol. products with similar contents of acetylated groups but different intrinsic viscosities and viscosity av. mol. wts. The bubbling of nitrogen and the addn. of anthraquinone were the most efficient measures to minimize depolymn. during the deacetylation of chitosan but they do not have such an effect on the deacetylation of chitin. In this latter case, the less depolymd. products were obtained by carrying out the reactions in the presence of sodium borohydride however, the addn. of anthraquinone, alone or accompanied by nitrogen bubbling, was ineffective.

IT **1398-61-4DP**, Chitin, deacetylated

**9012-76-4DP**, Chitosan, deacetylated

RL: PRP (Properties); SPN (Synthetic preparation); **PREP** (**Preparation**)

(effects of additives and inert gas bubbling on the  
**deacetylation of chitin and chitosan)**

IT 1398-61-4, Chitin

RL: RCT (Reactant); RACT (Reactant or reagent)  
(effects of additives and inert gas bubbling on the  
**deacetylation of chitin and chitosan)**

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L124 ANSWER 6 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:746397 CAPLUS

DOCUMENT NUMBER: 132:37194

TITLE: Chitosan processing: influence of process parameters  
during acidic and alkaline hydrolysis and effect of  
the processing sequence on the resultant chitosan's  
properties

AUTHOR(S): Rege, P. R.; Block, L. H.

CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Duquesne  
University, Pittsburgh, PA, USA

SOURCE: Carbohydrate Research (1999), 321(3-4), 235-245

CODEN: CRBRAT; ISSN: 0008-6215

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 24 Nov 1999

AB The influence of reaction temp., processing time, and mech. shear on the  
depolymn. (DP) of chitin was investigated, and the importance of the  
sequencing of the deacetylation and DP processes on the product chitosan  
(I) macromols. and their properties was evaluated. Process sequence did  
not alter the degree of deacetylation (DD), the intrinsic viscosity, or  
the mol. wt. (MW) of I. Treatment conditions affected the properties of  
I; the reaction temp. and processing time had a significant impact on the  
MW and DD. However, mech. shear did not significantly affect the above  
properties. Furthermore, polymer crystallinity was affected by reaction  
temp., but not by shear or processing time.

IT 9012-76-4P, Chitosan

RL: PNU (Preparation, unclassified); PRP (Properties); PREP  
(Preparation)

(chitin deacetylation and depolymn. process  
parameters effects on product **chitosan** mol. wt. and intrinsic  
viscosity)

IT 1398-61-4, Chitin

RL: RCT (Reactant); RACT (Reactant or reagent)

(chitin deacetylation and depolymn. process  
parameters effects on product chitosan mol. wt. and intrinsic  
viscosity)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L124 ANSWER 7 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:367796 CAPLUS

DOCUMENT NUMBER: 131:159087

TITLE: Preparation of chitosan by microwave technology

AUTHOR(S): Liang, Liang; Cui, Yingde; Luo, Zongming

CORPORATE SOURCE: Dept. of Chemical Engineering, GDUT, Canton, 510090,  
Peop. Rep. China

SOURCE: Guangdong Gongye Daxue Xuebao (1999), 16(1),  
ciebcici63-65, 81

CODEN: GDAXFR; ISSN: 1007-7162

PUBLISHER: Guangdong Gongye Daxue

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 15 Jun 1999

AB Using microwave radiation technol., chitosan was prepd. by chitin deacetylation in 50% sodium hydroxide soln. The expts. showed that the deacetylation was 77% in 15 min on the initial radiation. The deacetylation reached .apprx.100% after three radiation treatments.

IT 9012-76-4P, Chitosan

RL: PRP (Properties); SPN (Synthetic preparation); **PREP**  
(Preparation)

(prepn. and property of **chitosan** by microwave radiation of **chitin** in sodium hydroxide soln.)

IT 1398-61-4, Chitin

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. and property of chitosan by microwave radiation of **chitin** in sodium hydroxide soln.)

L124 ANSWER 8 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:165000 CAPLUS

DOCUMENT NUMBER: 133:137020

TITLE: Preparation and study of chitosan-SiO<sub>2</sub> composite film

AUTHOR(S): Yang, Hong; Ding, Yongtao; Wu, Xuran; Kong, Jinglin

CORPORATE SOURCE: Department of Applied Chemistry, Yantai University,  
Yantai, 264005, Peop. Rep. China

SOURCE: Yantai Daxue Xuebao, Ziran Kexue Yu Gongchengban  
(1999), 12(1), 46-49

CODEN: YDZGFR; ISSN: 1004-8820

PUBLISHER: Yantai Daxue Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 14 Mar 2000

AB The chitosan is obtained from the chitin and mixed with TEOS (tetraethoxysilane) in various temp. and pH conditions. IR results show that Si-O-C bond exists in some chitosan-SiO<sub>2</sub> materials formed in lower temp. and pH value. The films of the materials are obsd. Comparing with the film of chitosan, some of these can not be dissolved in thin acid soln.

IT 1398-61-4, Chitin

RL: RCT (Reactant); RACT (Reactant or reagent)  
(for prepn. of chitosan-SiO<sub>2</sub> composite film)

IT 9012-76-4P, Chitosan

RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP**  
(Preparation); USES (Uses)

(prepn. and properties of **chitosan-SiO<sub>2</sub>** composite film)

L124 ANSWER 9 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:586342 CAPLUS

DOCUMENT NUMBER: 129:204387

TITLE: Manufacture of acylated **chitin** or chitosan  
and fibers, films, foams, or other moldings made of  
the products

INVENTOR(S): Yoshikawa, Masatoshi; Okumura, Tadashi

PATENT ASSIGNEE(S): Omikenshi K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10237106	A2	19980908	JP 1997-54070	19970220
PRIORITY APPLN. INFO.:			JP 1997-54070	19970220
ED Entered STN:		15 Sep 1998		

AB Title products as aq. NaOH solns. are manufd. by dissolving chitosan or partially deacetylated chitin in mixts. of AcOH and MeOH and adding acid anhydrides to the solns., optionally assocd. with heating, for acylation followed by reaction with .gtoreq.30% aq. NaOH at a temp. lower than room temp. and by addn. of ice for dissolving. The solns. themselves or mixts. with cellulose viscose are converted into fibers, films, foams, or other moldings, which are used as medical goods, sanitary goods, wearing apparel, etc. Thus, dissolving 0.16 g chitosan in 10% aq. AcOH to give 4% soln., dilg. of the soln. with MeOH to give a 20% soln., adding of 2 mol (based on hexamine) propionic anhydride to the soln., crushing of the resulted gel, dialyzing of the crushed gel, swelling of the crushed gel by 46% aq. NaOH at room temp. for 2 h, and adding crushed ice to the gel gave 1% soln. of NaOH concn. 14%. Then, swelling of the 2.0 of the gel in 46% aq. NaOH to give 10% soln., cooling of the soln. in refrigerator for 1 day, adding crushed ice to the soln., spinning of the soln. followed by refining gave 4.71-denier fiber having tenacity 0.52 g/denier and elongation 25.9%.

IT **1398-61-4DP, Chitin, partially deacetylated,**  
acylated

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(acylation of chiton or **chitosan** for prepn. of aq. sodium hydroxide solns. for molding)

IT **64-19-7, Acetic acid, uses**

RL: NUU (Other use, unclassified); **USES (Uses)**

(solvents; acylation of chiton or chitosan for prepn. of aq. sodium hydroxide solns. for moldings)

L124 ANSWER 10 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:583977 CAPLUS

DOCUMENT NUMBER: 129:277610

TITLE: Polymerization coating performance of chemically modified materials for **chitin** and chitosan.

I. Preparation of chitosan and its properties

AUTHOR(S): Zhang, Xi; Tao, Yingchu; Gu, Zhimang

CORPORATE SOURCE: Dep. Environment Science, Wuhan University, Wuhan, 430072, Peop. Rep. China

SOURCE: Wuhan Daxue Xuebao, Ziran Kexueban (1998), 44(2), 193-197

CODEN: WTHPDI; ISSN: 0253-9888

PUBLISHER: Wuhan Daxue Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 15 Sep 1998

AB A preparative method has been established for obtaining chitosan products from the Industrial Musca domestical by using three procedures of decalcium and deproteide and deacetyl. The process technol. and characteristics of chitosan products with three indexes of degree of deacetylation, viscosity and color were approached. There is about 3% ash content of chitin extd. from the shells of the Industrial Musca domestical after being immersed in 1 mol.cntdot.L-1 HCl for 16 h. The procedure of deproteide by dil. alkali is an important factor to influent the color of products. The procedure of deacetylation with the soln. contg. 762.5 g.L-1 NaOH for 4 h at 100.degree. have been carried out for obtaining optimum chitosan products quality. For high degree of deacetylation and viscosity, intermittence treatment is an important route.

IT **1398-61-4, Chitin**

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(for prepn. of chitosan)

IT **9012-76-4P, Chitosan**

RL: IMF (Industrial manufacture); PRP (Properties); PUR (Purification or recovery); **PREP (Preparation)**

(prepn. and properties of **chitosan**)

L124 ANSWER 11 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1987:604898 CAPLUS

DOCUMENT NUMBER: 107:204898

TITLE: Preparation of chitosan and its stability in solution

AUTHOR(S): Yan, Jun; Xu, Rongnan

CORPORATE SOURCE: Dep. Chem., East China Norm. Univ., Shanghai, Peop. Rep. China

SOURCE: Riyong Huaxue Gongye (1987), (2), 70-4

CODEN: RHGOE8; ISSN: 1001-1803

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 27 Nov 1987

AB Chitosan was prepd. by N-deacetylation of chitin in 50% NaOH solns. at 60-65.degree.; the yield was .apprx.90%. Stability tests for chitosan in org. acid aq. solns. indicated that chitosan is stable in aq. solns. contg. formic acid and EtOH, as used in hair prepsns.

IT 64-19-7, Acetic acid, uses and miscellaneous

RL: **USES (Uses)**

(chitosan stability in aq. solns. contg.)

IT 1398-61-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(deacetylation of)

IT 9012-76-4P, Chitosan

RL: PRP (Properties); **PREP (Preparation)**

(prepn. and stability of, in solns., for hair prepsns.)

L124 ANSWER 12 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
DUPLICATE 1

ACCESSION NUMBER: 1989:98477 BIOSIS

DOCUMENT NUMBER: PREV198987052613; BA87:52613

TITLE: DISTRIBUTION OF **CHITOSAN** IN MUCOR STRAINS AND  
SOME PROPERTIES OF THE **CHITOSAN** ISOLATED.AUTHOR(S): KOBAYASHI T [Reprint author]; KAJI Y; TAKIGUCHI Y;  
SHIMAHARA K; SANNAN TCORPORATE SOURCE: DEP INDUSTRIAL CHEM, FAC ENG, SEIKEI UNIV, MUSASHINO-SHI,  
TOKYO 180SOURCE: Nippon Nogeikagaku Kaishi, (1988) Vol. 62, No. 10, pp.  
1471-1474.

CODEN: NNKKAA. ISSN: 0002-1407.

DOCUMENT TYPE: Article

FILE SEGMENT: BA

LANGUAGE: JAPANESE

ENTRY DATE: Entered STN: 6 Feb 1989

Last Updated on STN: 6 Feb 1989

ED Entered STN: 6 Feb 1989

Last Updated on STN: 6 Feb 1989

AB Forty-three authentic strains of Mucor were cultivated on a rotary shaker in a medium containing glucose, peptone and yeast extract for 48 and 72 hr at 24.degree.C. The harvested mycelium of each strain was treated with hot 2% sodium hydroxide to isolate the alkali-insoluble materials. The extraction of **chitosan** from the alkali-insoluble materials was carried out with 2% **acetic acid** at room temperature. The yield of **chitosan** varied widely depending on the strain, but none of the Mucor strains exhibited a higher **chitosan** yield than Absidia butleri HUT 1001. The **viscosity** of **chitosan** solution from Mucor strains was generally lower than that from Absidia.

L124 ANSWER 13 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
DUPLICATE 2

ACCESSION NUMBER: 1989:98476 BIOSIS

DOCUMENT NUMBER: PREV198987052612; BA87:52612

TITLE: DISTRIBUTION OF **CHITOSAN** IN ABSIDIA STRAINS AND  
SOME PROPERTIES OF THE **CHITOSAN** ISOLATED.  
AUTHOR(S): KOBAYASHI T [Reprint author]; TAKIGUCHI Y; SHIMAHARA K;  
SANNAN T  
CORPORATE SOURCE: DEP INDUSTRIAL CHEM, FAC ENG, SEIKEI UNIV, MUSASHINO-SHI,  
TOKYO 180  
SOURCE: Nippon Nogeikagaku Kaishi, (1988) Vol. 62, No. 10, pp.  
1463-1470.  
CODEN: NNKKA. ISSN: 0002-1407.  
DOCUMENT TYPE: Article  
FILE SEGMENT: BA  
LANGUAGE: JAPANESE  
ENTRY DATE: Entered STN: 6 Feb 1989  
Last Updated on STN: 6 Feb 1989  
ED Entered STN: 6 Feb 1989  
Last Updated on STN: 6 Feb 1989  
AB Thirty-six authentic strains of Absidia were cultivated on a rotary shaker  
in a medium containing glucose, peptone, yeast extract and inorganic salts  
for 44 hr at 24.degree.C. The harvested mycelium of each strain was  
treated with hot 2% sodium hydroxide to isolate the alkali-insoluble  
materials. The extraction of **chitosan** from the alkali-insoluble  
materials was carried out with 2% **acetic acid** at room  
temperature. The yield of **chitosan** varied from 10 to 244 mg per  
flask (containing 200 ml of medium) depending on the strain. The degree  
of deacetylation of the **chitosan** preparation was from 79 to 91%.  
The **viscosity** of 0.1% solution (in 0.5% **acetic**  
**acid**) of the preparation was from 2.2 to 6.1 cP. Absidia butleri  
HUT 1001 produced a relatively large amount of **chitosan** which  
exhibited the highest **viscosity**. Its molecular weight was  
determined to be 1.2 .times. 10<sup>6</sup> which was approximately identical to that  
of crab-shell **chitosan**.

L124 ANSWER 14 OF 25 PASCAL COPYRIGHT 2004 INIST-CNRS. ALL RIGHTS RESERVED.  
on STN

ACCESSION NUMBER: 1993-0401544 PASCAL  
TITLE (IN ENGLISH): An evaluation of alkali and acid treatments for  
**chitosan** extraction from **fungi**  
AUTHOR: RANE K. D.; HOOVER D. G.  
CORPORATE SOURCE: Univ. Delaware, dep. food sci., Newark DE 19716,  
United States  
SOURCE: Process biochemistry : (1991), (1993), 28(2), 115-118,  
15 refs.  
DOCUMENT TYPE: Journal  
BIBLIOGRAPHIC LEVEL: Analytic  
COUNTRY: United Kingdom  
LANGUAGE: English  
AVAILABILITY: INIST-3034, 354000037087900070  
UP 20001027

L124 ANSWER 15 OF 25 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN

ACCESSION NUMBER: 1993-05217 BIOTECHDS  
TITLE: An evaluation of alkali and acid treatments for  
**chitosan** extraction from **fungi**;  
**chitosan** production by Absidia coerulea and  
purification  
AUTHOR: Rane K D; \*Hoover D G  
LOCATION: Department of Food Science, University of Delaware, Newark,  
Delaware 19716, USA.  
SOURCE: Process Biochem.; (1993) 28, 2, 115-18  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Absidia coerulea ATCC 14076 was grown in 1-l flasks containing 400 ml of  
medium (2% glucose, 1% peptone, 0.1% yeast extract, 0.5% (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 0.1%

K<sub>2</sub>HPO<sub>4</sub>, 0.1% NaCl, 0.5% MgSO<sub>4</sub>·7H<sub>2</sub>O and 0.01% CaCl<sub>2</sub>, pH 4.5) and incubated for 48 hr at 26 deg with continuous shaking at 150 rpm. **Chitosan** was extracted from the mycelium either by alkali treatment at 95 or 121 deg using NaOH, or by acid treatment using hydrochloric acid, formic acid or **acetic acid** at 95 deg. The highest **chitosan** yields for alkaline extraction (10.67 +/- 0.31 mg/100 ml of medium) were obtained after 30 min at 121 deg. The percentage of **chitosan**/alkali-insoluble material was fairly constant (58-61%) for all treatments at 121 deg, but increased with increasing extraction time at 95 deg. The degree of acetylation of **chitosan** was 10.04-10.67% at 121 deg and 11.04-11.62% at 95 deg. The highest **viscosity** of **chitosan** was found after alkali treatment at 121 deg for 30 min. For acid extractions, the highest **chitosan** yield (36-39% per cell wall material) was obtained by treatment with HCl for 12 hr. The highest **viscosity** was obtained with formic acid-extracted material. (15 ref)

L124 ANSWER 16 OF 25 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
ACCESSION NUMBER: 1990-11386 BIOTECHDS  
TITLE: Screening of Mucoraceae strains suitable for **chitosan**  
production;

isolation of *Absidia butleri* as efficient producer  
(conference abstract)

AUTHOR: Shimahara K; Takiguchi Y; Kobayashi T; Uda K; Sannan T  
CORPORATE SOURCE: Dainichi-Chem.  
LOCATION: Department of Industrial Chemistry, Seikei University,  
Musashino, Tokyo, Japan.  
SOURCE: Chitin+Chitosan; (1988) A1  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB 127 Mucoraceae strains (including *Absidia*, *Mucor* and *Rhizopus* spp.) were screened for production of **chitosan**. The degree of N-acetylation of the **chitosan** preparations extracted from almost all the strains tested and the viscosities of their solutions were also determined. Each strain was grown for 2 days at 24 deg in a medium containing glucose, peptone, yeast extract and inorganic salts (200 ml in a 500 ml flask) on a rotary shaker. Harvested hyphae were treated with hot 2% NaOH and the alkaline-insoluble residue was then treated with 2% **acetic acid** to extract **chitosan**. *Absidia* strains generally exhibited high yields of **chitosan**. The majority of the **chitosan** preparations showed N-acetylation between 10 and 20%. The viscosities of 0.1% solutions (in 0.5% **acetic acid**) ranged from 1.5 to 16.1 cP. Those from *Absidia* strains generally exhibited high viscosities. *Absidia butleri* HUT 1001 was one of the best strains, producing relatively large amounts of high **viscosity chitosan**. The mol.wt. of this **chitosan** was 1,200,000, which is almost the same as that of crab shell **chitosan**. (0 ref)

L124 ANSWER 17 OF 25 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN  
ACCESSION NUMBER: 2002-87078 CROPU I Q G  
TITLE: Synergistic biological pesticide formulation, having  
biostimulant, pest resistance inducing, **fungicidal**  
and insecticidal activity, comprising entomopathogenic  
nematodes, **chitosan** and weak acid.

INVENTOR: Martinez Pena A  
PATENT ASSIGNEE: Idebio  
LOCATION: Salamanca, Esp.  
PATENT INFO: WO 2002037966 A1 20020516  
APPLICATION INFO: ES 2000-2708 20001110  
WO 2001-ES429 20011108  
DOCUMENT TYPE: Patent  
LANGUAGE: Spanish

OTHER SOURCE: WPI: 2002-463445

FIELD AVAIL.: AB; LA; CT

AB A synergistic biological pesticide formulation, comprising entomopathogenic nematodes (e.g. Steinernematidae and Heterorhabditidae), **chitosan**, and a weak acid, is claimed for use as an insecticide, acaricide, molluscicide and **fungicide**. Twenty-seven bioassays were given for the control of *Capnodis tenebrionis*, *Phyllonictus citrella*, *Galleria mellonella*, *Melolontha melolontha*, *Kaloterme flavicollis*, *Cosmopolites sordidus*, *Vesperus xatarti*, *Xylotrechus arvicola*, *Agrotis segetum*, *Hoplocampa testudinea*, *Thaumetopoea pityocampa*, *Cossus cossus*, *Cleonus mendicus*, *Lixus junci*, *L. scabricollis*, *Liriomyza trifolii*, *Heliothis armigera*, *Trialeurodes vaporariorum*, *Zeuzera pyrina*, *Spodoptera littoralis*, *Pieris rapae*, *Cydia (Laspeyresia) pomonella*, *Ceratitis capitata*, *Chilo suppressalis*, *Reticulitermes lucifugus* and *Hylotrupes bajulus* on various crops.

L124 ANSWER 18 OF 25 USPATFULL on STN

ACCESSION NUMBER: 2003:219344 USPATFULL

TITLE: Extended release particle dispersion

INVENTOR(S): Bodmeier, Roland, Berlin, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003152634	A1	20030814
APPLICATION INFO.:	US 2003-378733	A1	20030304 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. WO 2001-DE3438, filed on 4 Sep 2001, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2000-DE10044545	20000905
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	INNOVAR, LLC, P O BOX 250647, PLANO, TX, 75025	
NUMBER OF CLAIMS:	49	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1125	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to extended release compositions that can be advantageously used as drug products, plant protection agents, in foods or other products. The invention especially relates to liquid compositions in which extended release particles are dispersed. The compositions according to this invention are available in the form of single-dose or multi-dose compositions and as such are produced from liquid preproducts. The invention further relates to kits and methods for producing the compositions and to the preproducts thereof.

IT 64-19-7, Acetic acid, uses  
(polymer-based sustained release particle dispersions)

IT 612-76-4, Chitosan  
(polymer-based sustained release particle dispersions)

L124 ANSWER 19 OF 25 USPATFULL on STN

ACCESSION NUMBER: 2003:100095 USPATFULL

TITLE: METHODS AND KITS FOR ABSORBING FAT

INVENTOR(S): Nichols, Everett J., Edmonds, WA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003069206	A1	20030410
APPLICATION INFO.:	US 1999-474695	A1	19991229 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1998-114023, filed on 10 Jul 1998, GRANTED, Pat. No. US 6130321		
DOCUMENT TYPE:	Utility		



FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC, 1420  
FIFTH AVENUE, SUITE 2800, SEATTLE, WA, 98101-2347  
NUMBER OF CLAIMS: 50  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 4 Drawing Page(s)  
LINE COUNT: 1229  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB In one aspect, the present invention provides kits for reducing absorption of lipids by the gastrointestinal tract of a mammalian body. The kits include chitosan, packaging, and instructions indicating that the chitosan may be consumed with food. Chitosan useful for incorporation into kits of the present invention dissolves sufficiently rapidly in gastric juice that it does not have to be consumed in advance of a meal in order to dissolve within the stomach and thereafter effectively entrap lipids in the gastrointestinal tract of the consumer. In a particular embodiment of the kits of the present invention, the chitosan possesses the property of dissolving in a 100-fold (w/w) excess of 0.16N hydrochloric acid, at a temperature in the range of from 16.degree. C. to 25.degree. C., so that the maximum viscosity of the dissolved chitosan solution is reached within 5 minutes after the acid contacts the chitosan. It is desirable to utilize chitosan having a high tap density and/or high bulk density in the kits of the present invention. In another aspect, the present invention provides methods for reducing absorption of lipids by the gastrointestinal tract of a mammalian body. The methods include the step of providing a consumer with a kit including chitosan, packaging, and instructions indicating that the chitosan may be consumed with food. The kits of the present invention are useful in the practice of the methods of the present invention. By utilizing the kits and/or methods for lipid absorption reduction of the present invention a consumer does not have to remember to consume lipid-absorbing chitosan in advance of food consumption.

IT 64-19-7, Acetic acid, uses  
(chitosan tap d. increase by; kits contg. chitosan of high tap and/or bulk d. for reducing fat absorption)

IT 9012-76-4, Chitosan  
(kits contg. chitosan of high tap and/or bulk d. for reducing fat absorption)

L124 ANSWER 20 OF 25 USPATFULL on STN  
ACCESSION NUMBER: 2003:81477 USPATFULL  
TITLE: Polymer blends that swell in an acidic environment and deswell in a basic environment  
INVENTOR(S): Zentner, Gaylen M., Salt Lake City, UT, United States  
Bark, Jong-Seok, Salt Lake City, UT, United States  
Liu, Feng, Salt Lake City, UT, United States  
PATENT ASSIGNEE(S): MacroMed, Inc., Sandy, UT, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6537584	B1	20030325
APPLICATION INFO.:	US 2000-710403		20001109 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1999-438884, filed on 12 Nov 1999, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Page, Thurman K.		
ASSISTANT EXAMINER:	Di Nola-Baron, Liliana		
LEGAL REPRESENTATIVE:	Thorpe North & Western, LLP		
NUMBER OF CLAIMS:	66		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)		

LINE COUNT: 1109

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A polymer blend is prepared by dissolving chitosan and a second polymer in an acidic aqueous solution to form an aqueous polymer blend, dehydrating said aqueous polymer blend, and recovering said polymer blend. The second polymer may be selected from the group consisting of polyether glycols including polyethylene glycols; cellulose esters including cellulose acetate; poloxamers; polysaccharides including dextran and guar; polyvinylpyrrolidones; polyvinyl alcohols; and mixtures or copolymers thereof. These polymer blends swell in an acidic environment and deswell in a more neutral or basic environment. This technology is valuable for the dispensing of biologically active material or drugs into a surrounding environment, especially the environment as is found in the gastrointestinal tract. Since the various polymer blends of the present invention are not covalently or ionically crosslinked, but are physically combined, each polymer in the physical blend maintains its original chemical structure, and therefore, is safe for oral administration.

IT 64-19-7, Acetic acid, processes  
(polymer blends that swell in acidic environment and deswell in basic environment)

IT 9012-76-4, Chitosan 9012-76-4D, Chitosan, derivs.  
(polymer blends that swell in acidic environment and deswell in basic environment)

L124 ANSWER 21 OF 25 USPATFULL on STN

ACCESSION NUMBER: 2002:27447 USPATFULL

TITLE: Keratinocyte growth factor-2 formulations

INVENTOR(S): Gentz, Reiner L., Rockville, MD, UNITED STATES

Chopra, Arvind, Gaithersburg, MD, UNITED STATES

Kaushal, Parveen, Silver Spring, MD, UNITED STATES

Spitznagel, Thomas, Vienna, VA, UNITED STATES

Unsworth, Edward, Kensington, MD, UNITED STATES

Khan, Fazal, Gaithersburg, MD, UNITED STATES

PATENT ASSIGNEE(S): Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002016295	A1	20020207
	US 6653284	B2	20031125
APPLICATION INFO.:	US 2001-853666	A1	20010514 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1998-218444, filed on 22 Dec 1998, GRANTED, Pat. No. US 6238888		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-68493P	19971222 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C., 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934	

NUMBER OF CLAIMS: 81

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 9 Drawing Page(s)

LINE COUNT: 2303

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention is directed to liquid and lyophilized forms of Keratinocyte Growth Factor-2 (KGF-2) and derivatives thereof. This invention further relates to the formulation of KGF-2 for therapeutic use, for example, to promote or accelerate wound healing.

IT 64-19-7, Acetic acid, uses

(buffer; keratinocyte growth factor-2 formulations for promotion of wound healing)

IT 9012-76-4, Chitosan

(gelling agent; keratinocyte growth factor-2 formulations for promotion of wound healing)

L124 ANSWER 22 OF 25 USPATFULL on STN

ACCESSION NUMBER: 2001:114610 USPATFULL

TITLE: Viscosified aqueous chitosan-containing well drilling and servicing fluids

INVENTOR(S): House, Roy F., Houston, TX, United States

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001008875	A1	20010719
	US 6291404	B2	20010918
APPLICATION INFO.:	US 2001-782634	A1	20010213 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1998-222293, filed on 28 Dec 1998, PENDING		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Roy F. House, 5726 Ettrick Street, Houston, TX, 77035		
NUMBER OF CLAIMS:	13		
EXEMPLARY CLAIM:	1		
LINE COUNT:	613		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides aqueous viscous or gelled alkaline fluids particularly useful in oil and gas well operations, and a method of drilling a well therewith. The fluids contain chitosan, an amine reactive acid, and an aldehyde therein, whereby the amine reactive acid and the aldehyde react with the primary amino group on the chitosan to increase the viscosity and stability of the fluid. The fluids are also useful wherein other chitosan-containing fluids are utilized. The preferred amine reactive acid is glyoxylic acid, and the preferred aldehyde is lactose.

IT 64-19-7, Glacial acetic acid, uses  
(viscosified aq. chitosan-contg. well drilling and servicing fluids)

IT 9012-76-4, Chitosan  
(viscosified aq. chitosan-contg. well drilling and servicing fluids)

L124 ANSWER 23 OF 25 USPATFULL on STN

ACCESSION NUMBER: 2001:136597 USPATFULL

TITLE: Viscosified aqueous fluids and viscosifier therefor

INVENTOR(S): House, Roy F., Houston, TX, United States

PATENT ASSIGNEE(S): Venture Innovations, Inc., Lafayette, LA, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6277792	B1	20010821
APPLICATION INFO.:	US 2000-541555		20000403 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1998-222293, filed on 28 Dec 1998		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Tucker, Philip		
LEGAL REPRESENTATIVE:	House, Roy F.		
NUMBER OF CLAIMS:	24		
EXEMPLARY CLAIM:	1		
LINE COUNT:	598		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention discloses a method of producing modified, derivatized chitosans which produce viscous aqueous liquids when

dispersed (solublized) in compatible aqueous liquids. The method comprises reacting chitosan in an acidic solution with an aldehyde-group containing chemical modifier at an elevated temperature wherein the concentration of chitosan in the acidic solution and the reaction time at the elevated temperature are sufficient to produce a semi-solid gel. The preferred chemical modifier is one or more saccharides containing less than about 10 saccharide units, most preferably lactose. The preferred reaction temperature is greater than about 60.degree. C., and the preferred concentration of chitosan is at least about 1.43% w/v. The invention also discloses the acidic chitosan-containing concentrates prepared by the method, and the viscous acidic fluids prepared by dispersing/solubilizing the concentrates in aqueous liquids.

IT 64-19-7, Glacial acetic acid, uses 9012-76-4, Chitosan  
(chitosan viscosifier in viscosified aq. fluids)

L124 ANSWER 24 OF 25 USPATFULL on STN

ACCESSION NUMBER: 2001:78915 USPATFULL  
TITLE: Keratinocyte growth factor-2 formulations  
INVENTOR(S): Gentz, Reiner L., Rockville, MD, United States  
Chopra, Arvind, Gaithersburg, MD, United States  
Kaushal, Parveen, Silver Spring, MD, United States  
Spitznagel, Thomas, Vienna, VA, United States  
Unsworth, Edward, Kensington, MD, United States  
Khan, Fazel, Gaithersburg, MD, United States  
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6238888	B1	20010529
APPLICATION INFO.:	US 1998-218444		19981222 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-68493P	19971222 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Carlson, Karen Cochrane	
ASSISTANT EXAMINER:	Robinson, Patricia	
LEGAL REPRESENTATIVE:	Sterne, Kessler, Goldstein & Fox P.L.L.C.	
NUMBER OF CLAIMS:	81	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	9 Drawing Figure(s); 8 Drawing Page(s)	
LINE COUNT:	2229	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention is directed to liquid and lyophilized forms of Keratinocyte Growth Factor-2 (KGF-2) and derivatives thereof. This invention further relates to the formulation of KGF-2 for therapeutic use, for example, to promote or accelerate wound healing.

IT 64-19-7, Acetic acid, uses  
(buffer; keratinocyte growth factor-2 formulations for promotion of wound healing)

IT 9012-76-4, Chitosan  
(gelling agent; keratinocyte growth factor-2 formulations for promotion of wound healing)

L124 ANSWER 25 OF 25 USPATFULL on STN

ACCESSION NUMBER: 92:40514 USPATFULL  
TITLE: Fabric having water absorption property and method of manufacturing the fabric  
INVENTOR(S): Nakagawa, Yukio, Katano, Japan  
Koizumi, Syoji, Izumi, Japan  
Miyake, Masao, Otsu, Japan

PATENT ASSIGNEE(S): Akita, Teruo, Kusatsu, Japan  
Uno, Tomohisa, Koga, Japan  
Asahi Kasei Textile Ltd., Tokyo, Japan (non-U.S.  
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5114788		19920519
APPLICATION INFO.:	US 1989-421109		19891013 (7)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1988-259409	19881017
	JP 1989-109959	19890428
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Van Balen, William J.	
LEGAL REPRESENTATIVE:	Finnegan, Henderson, Farabow, Garrett & Dunner	
NUMBER OF CLAIMS:	14	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 1 Drawing Page(s)	
LINE COUNT:	851	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A fabric having a superior moisture permeability and water absorption.  
The superior features of the fabric in accordance with the present  
invention are provided by using a chitin group substance with a  
synthetic resin.

The fabric in accordance with the present invention can be obtained by  
immersing a base fabric in a synthetic resin including the chitin group  
substance or by coating at least a synthetic resin including the chitin  
group substance on the base fabric. The fabric manufactured by the  
latter method has a moisture condensation prevention property.

IT 64-19-7, Acetic acid, uses and miscellaneous  
(in application of chitin to textiles, for improved water absorption  
and antifungal properties)

IT 1398-61-4D, Chitin, deacetylated 9012-76-4,  
Chitosan  
(textile treatment by, for improved water absorption properties and  
antifungal properties)

=> fil capl; d que 132

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FILE COVERS 1907 - 5 Apr 2004 VOL 140 ISS 15

FILE LAST UPDATED: 4 Apr 2004 (20040404/ED)

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'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

L5 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN  
L6 1 SEA FILE=REGISTRY ABB=ON CHITIN/CN  
L7 15346 SEA FILE=CAPLUS ABB=ON L5 OR CHITOSAN/OBI  
L8 9495 SEA FILE=CAPLUS ABB=ON L6 OR CHITIN/OBI  
L9 47941 SEA FILE=CAPLUS ABB=ON ACETYLAT?/OBI  
L10 12588 SEA FILE=CAPLUS ABB=ON DEACETYLAT?/OBI  
L11 2972 SEA FILE=CAPLUS ABB=ON L7(L)PREP/RL  
L12 227 SEA FILE=CAPLUS ABB=ON L11 AND L8 AND (L9 OR L10)  
L19 47521 SEA FILE=CAPLUS ABB=ON ASH/OBI  
L20 27599 SEA FILE=CAPLUS ABB=ON TURBIDITY/BI  
L32 2 SEA FILE=CAPLUS ABB=ON L12 AND (L19 OR L20)

*chitosan*  
+  
*ash or*  
*turbidity*

=> s 132 not (14 or 114 or 118 or 130 or 138)

L125 2 L32 NOT (L4 OR L14 OR L18 OR L30 OR L38)

=> fil uspatf; d que 164

FILE 'USPATFULL' ENTERED AT 13:14:21 ON 05 APR 2004

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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 1 Apr 2004 (20040401/PD)

FILE LAST UPDATED: 1 Apr 2004 (20040401/ED)

HIGHEST GRANTED PATENT NUMBER: US6715148

HIGHEST APPLICATION PUBLICATION NUMBER: US2004064864

CA INDEXING IS CURRENT THROUGH 1 Apr 2004 (20040401/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 1 Apr 2004 (20040401/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2004

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2004

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>>> publications, starting in 2001, for the inventions covered in <<<  
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L5 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN  
L6 1 SEA FILE=REGISTRY ABB=ON CHITIN/CN  
L45 1628 SEA FILE=USPATFULL ABB=ON L5  
L46 824 SEA FILE=USPATFULL ABB=ON L6  
L49 6347 SEA FILE=USPATFULL ABB=ON (DEACETYLAT? OR ACETYLAT?)/IT  
L60 8141 SEA FILE=USPATFULL ABB=ON ASH/IT, TI, AB, CLM  
L61 1268 SEA FILE=USPATFULL ABB=ON TURBIDITY/IT, TI, AB, CLM  
L64 4 SEA FILE=USPATFULL ABB=ON L45 AND (L60 OR L61) AND (L46 OR  
L49)

=> s 164 not (147 or 154 or 156 or 158)

L126 4 L64 NOT (L47 OR L54 OR L56 OR L58)

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L66 5591 SEA L5  
L67 7916 SEA CHITOSAN  
L73 162374 SEA (CANDIDA OR GUILLERMONDII OR ASPERGILLUS OR A(W) (NIGER OR  
TERREUS))  
L74 1008420 SEA FUNG?  
L76 73323 SEA ASH  
L77 16031 SEA TURBIDITY  
L97 8 SEA (L76 OR L77) AND (L66 OR L67) AND (L73 OR L74)

=> s 197 not (194 or 181 or 188) *providedly printed*

L127 8 L97 NOT (L94 OR L81 OR L88)

=> fil PASCAL, JICST-EPLUS, BIOTECHDS, LIFESCI, CROPU, SCISEARCH

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L98 13719 SEA CHITOSAN  
L101 129289 SEA (CANDIDA OR GUILLERMONDII OR ASPERGILLUS OR A(W) (NIGER OR  
TERREUS))  
L102 477868 SEA FUNG?  
L105 59002 SEA ASH  
L106 20650 SEA TURBIDITY  
L114 13 SEA L98 AND (L101 OR L102) AND (L105 OR L106)

=> s (1111 or 1113) not 1114

L128 19 (L111 OR L113) NOT L114

=> s 1114 not (1111 or 1113)  
L129 13 L114 NOT (L111 OR L113)

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